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Selected US specifications from IPC sub-class E01F

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(54) Road sign

(57) A road sign comprises a multiplicity of upstanding arcuate section posts (25) each moulded in a resilient flexible plastics and arranged side by side to form a panel with their lower ends mounted in the ground in sockets (12). The flexibility of the posts is such that if hit by an excessive force, they will deflect and, when released, will return to their original upright state. The individual posts making up the road sign panel may be plain or may be provided with elements of a written or graphic illustration such an an arrow or chevron device spanning several posts.

FIG. 1.

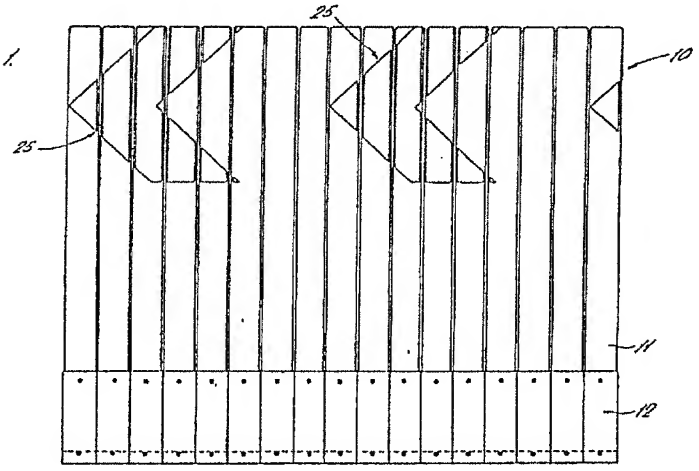
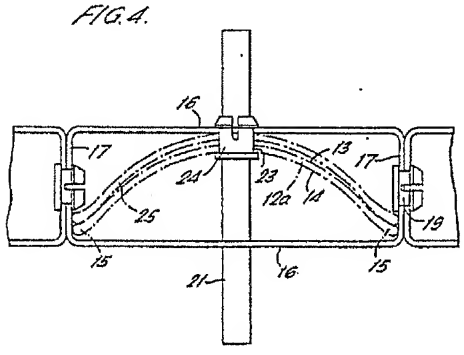


FIG. 4.



The drawing(s) originally filed was (were) informal and the print here reproduced is taken from a later filed formal copy.

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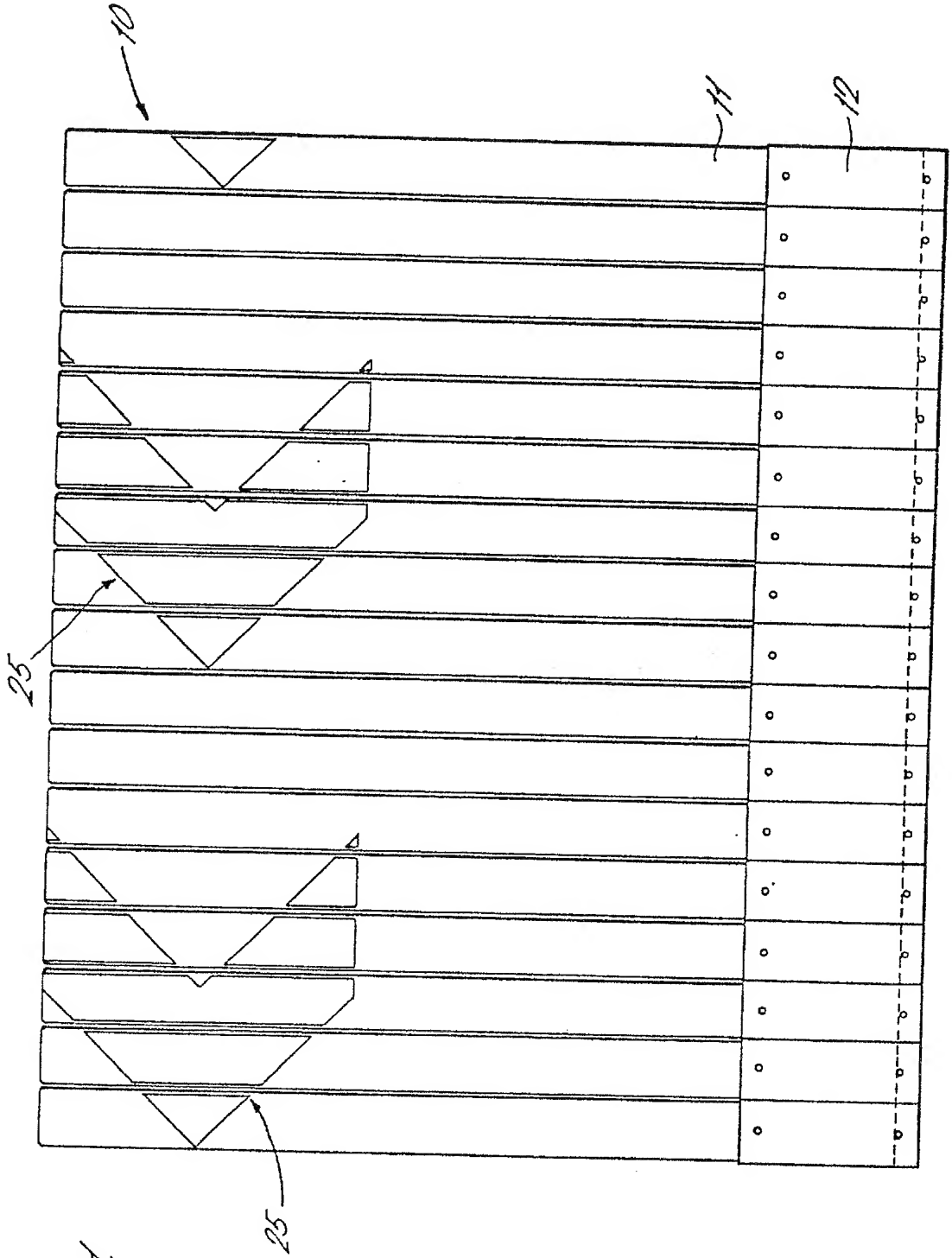


FIG. 1.

FIG. 2.

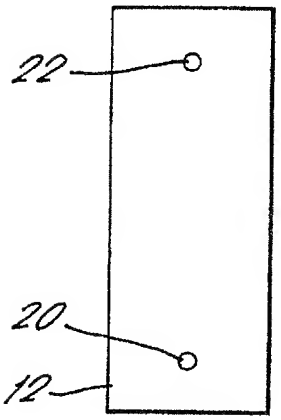


FIG. 3.

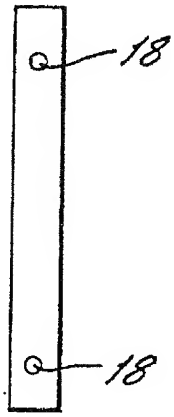


FIG. 4.

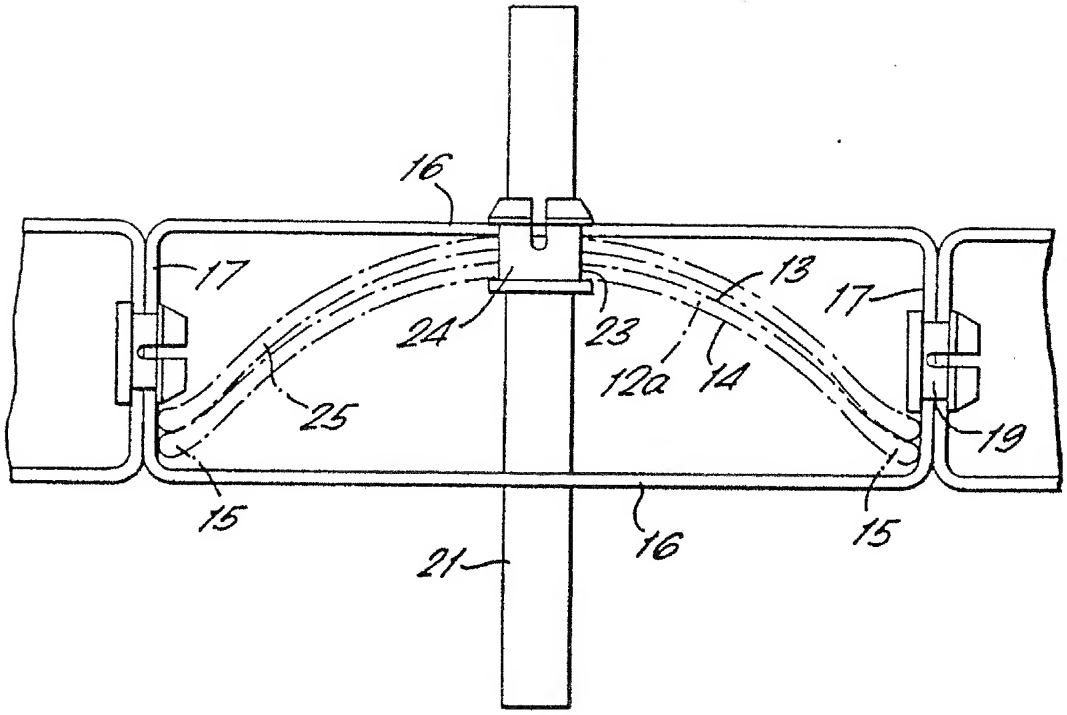


FIG. 5.

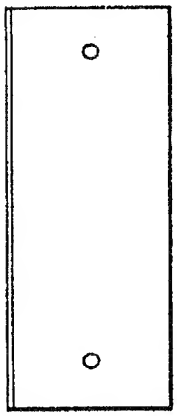
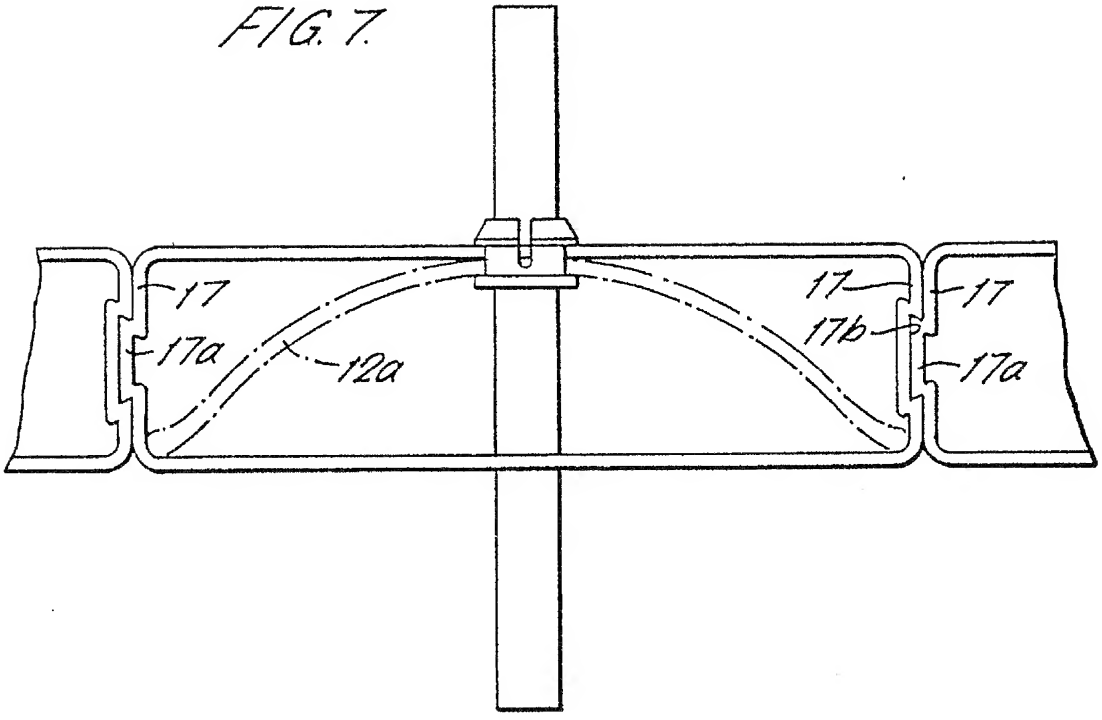


FIG. 6.

FIG. 7.



SPECIFICATION

Improvements in or relating to road signs

This invention relates to road signs and is in particular applicable to road signs to be mounted on the ground and on which a direction can be delineated such as the curve of a bend, the curve of the roadway around a roundabout or a path to be taken to avoid a hazard.

The invention provides a road sign comprising a plurality of elongate resilient posts each having an end part to be located in a mounting and mounting means for receiving the end parts of the posts and supporting the posts extending upright side-by-side with one another to form a panel with one surface of each post generally aligned with the corresponding surfaces of adjacent posts to provide between the posts a panel face on which a road sign in written or graphic form may be provided, the mounting means permitting any one or more of the posts to be deflected by a vehicle or other object and the resilience of the post or posts returning the posts to the upright position after the object has passed.

Preferably the posts are each of arcuate cross-section and the mounting means are constructed to support the posts edge-to-edge in a panel formation with the convex sides of the posts providing said one surface of the panel and the concave surfaces of the posts providing the opposite surface of the panel.

More specifically the arcuate cross-section of each post may terminate in enlarged bead extending along the edge of the post.

It is further preferred that each is formed from a resiliently flexible plastics material.

In any of the above arrangements the mounting means for the end parts of the posts may comprise vertically open sockets, one for each post, disposed side-by-side to receive and support the posts extending upright side-by-side one another to form said panel formation.

In the case where the posts are of arcuate cross-section, the sockets may be of rectangular cross-section to receive the arcuate cross-section posts with the edges of the posts lodged in one pair of corners of the socket and a convex face of the post bearing on the opposite side of the socket.

Means may be provided for securing the sockets together end-to-end. For example the means for securing the sockets together may comprise fastening devices extending through the adjacent ends of the sockets. Alternatively the means for securing the sockets together may comprise a dovetail cross-section at one end of a socket and a dovetail recess at the other end to inter-engage with corresponding recesses and projections from the adjacent ends of further sockets.

Preferably a stop member extends through the socket towards the lower end thereof to limit the extent to which the end part of the post can be inserted into the socket.

More specifically the stop member may comprise a cross-bar extending through the socket at the lower end thereof and projecting on either side of the socket so that the socket can be buried in the ground and the cross-bar assists in holding the socket upright.

A fastening device may be provided for securing the post to the socket.

In a simpler construction according to the invention the posts are simply driven into the ground and the mounting means then comprise the holes in the ground formed by the posts or in which the posts are set.

The following is a description of some specific embodiments of the invention, reference being made to the accompanying drawings in which:

Figure 1 is an elevation view of a road sign consisting of a plurality of separate upstanding resilient posts mounted in sockets in the ground;

Figure 2 is a front elevation view of one form of socket;

Figure 3 is a side elevation view of the socket of Figure 2;

Figure 4 is a plan view of the socket with the post engaged in the socket as shown in chain-outline and the socket attached to adjacent sockets for further posts;

Figure 5 is a front elevation view of a further form of socket;

Figure 6 is a side view of the socket of Figure 5; and

Figure 7 is a plan view of the socket of Figures 5 and 6 with a post engaged in the socket shown in chain-outline and the socket connected to adjacent sockets for further posts.

Referring firstly to Figure 1 of the drawings there is shown a road sign indicated generally at 10 comprising a multiplicity of upstanding posts 11 arranged side-by-side to form a panel and mounted at their lower ends in the ground in socket 12. The posts are of arcuate cross-section as can be seen in Figure 4 providing a convex surface 13 and a concave surface 14. The ends of the arcuate cross-section are enlarged slightly to form beads 15 extending along the edges of the posts. Each post is moulded in resilient flexible plastic such as . the construction of the posts is such that if a post is hit by an excessive force, it will deflect and when released, will return to its original state.

Reference is now made to Figures 2 to 4 which illustrate one of the sockets 12 which is buried at ground level to receive and support a lower part of a post 11. The socket is a vertically elongate plastics moulding of rectangular cross-section having longer sides 16 and shorter sides 17. The span of the arcuate cross-section of a post 11 is such that when inserted in the socket with the arcuate section extending lengthwise of the socket, the beaded edges 15 of the section engage the corners of the socket to one side 16 of the socket and the central region of the convex face 13 of the post bears against the opposing sides 16 of the socket adjacent the centre thereof.

The shorter sides 17 of the sockets have upper and lower spaced holes 18 to receive snap-in fastening devices 19 for securing adjacent pairs of sockets together by their shorter sides. Thus the row of sockets is connected together in alignment to hold the posts in the sockets extending vertically closely adjacent to one another to form a panel of the posts with the convex sides of the posts to one side of the

panel and the concave sides of the posts on the opposite side.

The longer sides 16 of each socket have holes 20 formed centrally therein towards the lower end of the socket to receive a stud 21 extending through the socket and projecting on either side thereof. The stud serves to provide a stop against which the lower end of the post engages and the projecting parts of the stud to either side of the socket engage in the ground to assist in holding the socket in the upright position. Towards the upper end of one of the sides 16 which the central part of the post bears against there is a central aperture 22 and the lower part 12*a* of the post is formed with a corresponding aperture 23 which aligns with the aperture 22 when the end part of the post is fully inserted in the socket. A snap-in fastening device 24 extends through the apertures 23 and 22 to lock the post in the socket to prevent unauthorised removal of the post.

The individual posts making up the road sign panel may be plain or may be provided with elements of a written or graphic illustration. Thus in the example shown in Figure 1, the convex sides 13 of the posts 11 have elements of arrows or chevron signs indicated at 25 painted or otherwise applied thereto. A complete arrow or chevron spans six of the posts and a gap of two plain posts is provided between adjacent arrows.

As indicated above, the posts are individually mounted in their sockets and can individually flex when subjected to a load by an external object and automatically return to the upright position on release. If the sign is hit so severely as to break off one or more of the posts, any posts not hit or completely broken will remain to provide a residual sign until the broken posts have been replaced.

If necessary, the posts can be reinforced by additional back-up sections inserted in the sockets and extending a short distance up the post above the socket. Such an additional back-up section is illustrated in Figure 4 and 25 and, as can be seen, the fastening device for securing the post in the socket is sufficiently long to pass through both posts and the back-up section to secure both in place in the sockets.

Figures 5, 6 and 7 illustrate a modified version of the socket of Figures 2 to 4 the essential difference being that instead of fixing the sockets together using a snap-in fastening device, the short walls of each socket are formed with a dovetail section projection 17*a* extending lengthwise of the socket at one end of the socket and a dovetail section recess 17*b* extending lengthwise of the other end of the socket. Two adjacent sockets can then be locked together by means of the dovetail section projection on one socket end wall engaging in the recess of an adjacent socket end wall. The arrangement is otherwise similar to that described above.

It will be appreciated that many modifications may be made to the above described embodiments without departing from the scope of the invention. For example, in a greatly simplified construction the posts are driven or set directly in the ground without the use of pre-formed sockets.

In a further construction a single elongate post mounting unit is provided having multiple socket forming apertures or recesses to receive the lower ends of the posts.

Furthermore the arcuate posts need not all be arranged with the convex sides on one side of the panel and their concave sides on the other side of the panel. Thus some posts could be arranged one way round with their convex sides facing on-coming traffic and the other posts could be arranged with their concave sides facing on-coming trraffic.

CLAIMS

1. A road sign comprising a plurality of elongate resilient posts each having an end part to be located in a mounting and mounting means for receiving the end parts of the posts and supporting the posts extending upright side-by-side with one another to form a panel with one surface of each post generally aligned with the corresponding surfaces of adjacent posts to provide between the posts a panel face on which a road sign in written or graphic form may be provided, the mounting means permitting any one or more of the posts to be deflected by a vehicle or other object and the resilience of the post or posts returning the posts to the upright position after the object has passed.

2. A road sign as claimed in claim 1 wherein the posts are each of arcuate cross-section and the mounting means are constructed to support the posts edge-to-edge in a panel formation with the convex sides of the posts providing said one surface of the panel and the concave surfaces of the posts providing the opposite surface of the panel.

3. A road sign as claimed in claim 2 wherein the arcuate cross-section of each post terminates in enlarged beads extending along the edges of the post.

4. A road sign as claimed in claim 2 or claim 3 wherein each post is formed from a resiliently flexible plastics material.

5. A road sign as claimed in any of the preceding claims wherein the mounting means for the end parts of the posts comprise vertically open sockets, one for each post, disposed side-by-side to receive and support the posts extending upright side-by-side one another to form said panel formation.

6. A road sign as claimed in claim 5 and in the case where the posts are of arcuate cross-section, wherein the sockets are of rectangular cross-section to receive the arcuate cross-section posts with the edges of the posts lodged in one pair of corners of the socket and a convex face of the post bearing on the opposite side of the socket.

7. A road sign as claimed in claim 6 wherein means are provided for securing the sockets together end-to-end.

8. A road sign as claimed in claim 7 wherein the means for securing the sockets together comprise fastening devices extending through the adjacent ends of the sockets.

9. A road sign as claimed in claim 8 wherein the means for securing the sockets together comprise a dovetail cross-section at one end of a socket and a dovetail recess at the other end to inter-engage with corresponding recesses and projections from the

adjacent ends of further sockets.

10. A road sign as claimed in claim 5 wherein the sockets are formed integral with one another.

11. A road sign as claimed in any of claims 6 to 10 wherein a stop member extends through the socket towards the lower end thereof to limit the extent to which the end part of the post can be inserted into the socket.

12. A road sign as claimed in claim 11 wherein the stop member comprises a cross-bar extending through the socket at the lower end thereof and projecting on either side of the socket so that the socket can be buried in the ground and the cross-bar assists in holding the socket upright.

13. A road sign as claimed in any of claims 6 to 12 wherein a fastening device is provided for securing the post to the socket.

14. A road sign as claimed in any of claims 1 to 4 wherein the mounting means comprise the ground into which the ends of the posts are driven or are set.

15. A road sign substantially as described with reference to and as illustrated Figures 1 to 4 of the accompanying drawings.

16. A road sign substantially as described with reference to and as illustrated in Figures 1 to 4 as modified by Figures 5 to 7 of the accompanying drawings.

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